

U.S. Serial No. 10/666,356
Reply to Office Action of: January 24, 2006
Family Number: P2002J093 US2

Page 11

AMENDMENTS TO THE CLAIMS

1. (Currently amended) A lubricating oil composition having
extended life as evidenced by reduction in viscosity increase, oxidation and
nitration when used in gas engine comprising:

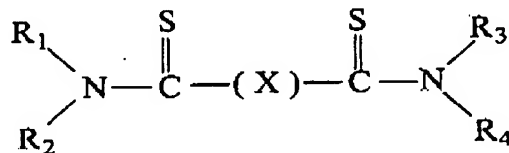
(a) a major amount of a base oil of lubricating viscosity;

(b) a combination of neutral and overbased metallic detergents in an amount
sufficient to provide a sulphated ash in the range of about 0.2 wt% to about
2.0 wt%;

(c) based on the volume of the composition from about 0.060 vol% to 0.15 vol%
of a zinc dialkyldithiophosphate and about 0.1 vol% to 2.0 vol% of a zinc
dialkyldithiocarbamate; and

(d) from about 0.5 vol% to about 2.0 vol% of an ashless
dihydrocarbylthiocarbamoyl antioxidant, or from about 0.50 vol% to about 1.9
vol% of phenolic antioxidants, or from about 0.5 vol% to 3.0 vol% of mixtures
thereof.

2. (Original) The composition of claim 1 wherein the
dihydrocarbylthiocarbamoyl antioxidant is represented by the formula



U.S. Serial No. 10/666,356

Reply to Office Action of: January 24, 2006

Page 12

Family Number: P2002J093 US2

where R₁, R₂, R₃ and R₄ are the same or different and each represents an alkyl group of 3 to 30 carbon atoms, X represents S, S-S, S-(CH₂)_yS, S-CH₂CH₂(CH₃)-S and y is an integer of 1 to 3.

5 3. (Currently amended) The composition of claim 1 or 2 having a phosphoreous content of up to 0.008 wt%.

 4. (Original) The composition of claim 3 wherein the base oil has a viscosity at 100°C of between about 5 to about 16 cSt.

10

 5. (Currently amended) The composition of claim 4 including one or more gas engine oil additives selected from the group consisting of ashless dispersants, ashless antiwear additives, metal passivators, pour point depressants, Viscosity Index improvers and antifoamants.

15

 6. (Currently amended) A method for enhancing the life of a lubricating oil composition as evidenced by a reduction in viscosity increase, oxidation and nitration when used in a stationary gas engine by adding to the oil a minor amount of additives comprising

20

(a) a combination of neutral and overbased metallic detergents in an amount sufficient to provide a sulphated ash in the range of about 0.2 wt% to about 2.0 wt% based on the total weight of the composition;

25

(b) based on the volume of the composition, from about 0.060 wt% vol% to 0.15 vol% of a zinc dialkyldithio phosphate and about 0.1 vol% to 2.0 vol% of a zinc dialkyldithiocarbamate; and

U.S. Serial No. 10/666,356

Reply to Office Action of: January 24, 2006

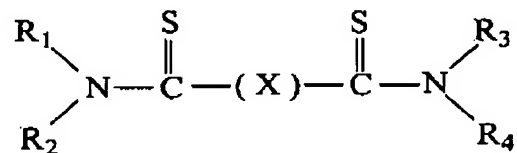
Page 13

Family Number: P2002J093 US2

- (c) based on the volume of the composition, from about 0.5 vol% to about 2.0 vol% of an ashless dihydrocarbylthiocarbamoyl antioxidant, or from about 0.05 vol% to about 1.9 vol% of phenolic antioxidants, or from about 0.5 vol% to 3.0 vol% of mixtures thereof.

5

7. (Original) The method of claim 6 wherein the dihydrocarbylthiocarbamoyl antioxidant is represented by the formula



- 10 where R₁, R₂, R₃ and R₄ are the same or different and each represents an alkyl group of 3 to 30 carbon atoms, X represents S, S-S, S-(CH₂)_yS, S-CH₂CH₂(CH₃)-S and y is an integer of 1 to 3.

- 15 8. (Currently amended) The method of claim 7 wherein the lubricating oil has a phosphoreous content of up to 0.008 wt%.

9. (Original) The method of claim 8 wherein the base oil has a viscosity of about 5 to about 16 cSt at 100°C.

- 20 10. (Currently amended) The method of claim 9 wherein the lubricating oil includes one or more gas engine oil additives selected from the group consisting of ashless dispersants, ashless antiwear additives, metal passivators, pour point depressants, Viscosity Index improvers and antifoamants.